REMARKS

Claims 3 – 13, 25, 26, 30 and 51 – 62 are pending. Claims 1, 2, 3, 14 – 24, 27 – 29, and 31 - 50 have been cancelled. Claims 51 – 61 have been withdrawn. Claim 25 has been amended. No new claims have been added. No new matter has been added by virtue of the amendments, support being found throughout the specification and the claims as originally filed.

Any cancellation of the claims was done solely to expedite the prosecution of the application. Applicant reserves the right to pursue the claims as originally filed in this or a separate application(s).

Claim Rejections Withdrawn

The rejection of claims 3 – 13, 25, 26 and 30 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement has been withdrawn.

The rejection of claims 3 – 13, 25, 26 and 30 under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement has been withdrawn.

The rejection of claims 3 – 13, 25, 26 and 30 under 35 U.S.C. §112, second paragraph, as being indefinite has been withdrawn, in part.

Claim Rejections

35 U.S.C. §112, second paragraph

Claims 3 – 13, 25, 26 and 30 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which applicant regards as the invention. (Office Action, p.3). Applicants respectfully disagree.

The Examiner argues that “as to claims 3 – 13, the claims are also confusing in that the claims recite ‘a target sequence’ and the specification teaches that the target

sequence is a nucleobase sequence and the claims do not recite a nucleobase sequence." (Office Action, p.3).

Without acquiescing to any validity of the Examiner's arguments, and solely in the interest of advancing prosecution of the claims and allowance of the application, Applicants have amended the claims. The present claims are directed to a PNA probe set comprising a PNA probe comprising SEQ ID NO:6, a PNA probe comprising SEQ ID NO: 7 and a PNA probe comprising SEQ ID NO: 8. (Claim 25).

Accordingly, Applicants respectfully request that the foregoing rejection be withdrawn.

35 U.S.C. §112, first paragraph

Claims 3 – 13, 25, 26 and 30 are rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. (Office Action, p.3) Applicants respectfully disagree.

The present claims have been set forth above.

The Examiner argues that the claims "recite that the PNA probes are at least 95% homologous to SEQ ID NOs: 6, 7 and 8 (and) the concept of variation of 'at least 95%' does not have written description in the specification as filed." (Office Action, p.4).

Without acquiescing to any validity of the Examiner's arguments, and solely in the interest of advancing prosecution of the claims and allowance of the application, Applicants have amended the claims to delete reference to 95%.

Applicants respectfully request that the foregoing rejections be withdrawn.

Claims 3 – 13, 25, 26 and 30 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. (Office Action, p.4). Applicants respectfully disagree.

The present claims have been set forth above.

The Examiner argues that "(t)he claims recite a probe set 'at least 95% homologous to' SEQ ID NO:6, SEQ ID NO: 7 and SEQ ID NO: 8…(and) specification does not teach variants of SEQ ID NOS: 6, 7 or 8 (and) the specification does not teach the 'target sequence' in genome or nucleobase sequence of the microorganism such that the skilled artisan would be able to readily envision other PNA probes for targeting." (Office Action, p.4 -5).

Without acquiescing to any validity of the Examiner's arguments, and solely in the interest of advancing prosecution of the claims and allowance of the application, Applicants have amended the claims. The present claims are directed to a PNA probe set comprising a PNA probe comprising SEQ ID NO:6, a PNA probe comprising SEQ ID NO: 7 and a PNA probe comprising SEQ ID NO: 8. (Claim 25).

Accordingly, Applicants respectfully request that the rejection be withdrawn.

35 U.S.C. §103(a)

Claims 3 – 13, 25, 26 and 30 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hashida et al. (WO 03/106676) in view of Ray et al. (FASEB Journal, 14: 1041 – 1060, 2000). Applicants respectfully disagree.

The present claims are directed to a PNA probe set comprising a PNA probe comprising SEQ ID NO:6, a PNA probe comprising SEQ ID NO: 7 and a PNA probe comprising SEQ ID NO: 8. In certain embodiments of the present invention, the probes are complementary to a nucleic acid selected from the group consisting of rRNA and rDNA.

The Examiner argues that "it is obvious to combine the probes (of) Hashida in a combined probe set for mere detection purposes and the instant probe set has open language and is not limited to a probe set consisting of the probes set forth in SEQ ID NOS:6, 7 and 8…(and) (t)he combination of probes and probe sets as set forth by Hashida et al alone for detection or present as combinations on chips as modified by Ray et al as useful for detection of Staphylococcus species is prima facie obvious." (Office Action, p. 8). Applicants disagree.

The present invention is directed to a PNA probe set comprising a PNA probe comprising SEQ ID NO:6, a PNA probe comprising SEQ ID NO: 7 and a PNA probe comprising SEQ ID NO: 8. The probes of the present invention are directed towards a phylogenetically conserved region of rRNA target sequence that varies slightly between Staphylococcus species. Applicants teach that **a particular probe mixture of SEQ ID NOs: 6, 7 and 8 can be made which detects a cohort of species by one fluorescent label,** and a single species with a second fluorescent label.

As described in the specification, DNA probes for analysis of *Staphylococcus aureus* and all *Staphylococcus* species (genus-specific probes) have been previously described, as well as PNA probes for the analysis of *S. aureus*, but **these probes all target sequences that are either species-specific or genus-specific**. (page 2, lines 15 – 20, emphasis added). Further, as stated in the specification, the design of probes targeting **a cohort of species** is particularly problematic and requires a combination of highly specific probe constructs and unique target sequences. (p.2, lines 32 – 34, emphasis added).

The Hashida reference teaches **probes sets in which all target sequences that are species-specific**. As pointed out above, the present invention has particularly designed probes to target a cohort of species. **Nowhere does the Hashida et al. reference teach or suggest any probe set comprising SEQ ID NO:s 6, 7 and 8, or any probe set that can detect a cohort of species by one fluorescent label**.

The Ray reference does not cure the defects of the Hashida reference. The Ray et al. reference merely provides background on the PNA and its potential use in medical and biotechnical applications. None of the cited references, alone or together, teaches or suggests any probe set comprising SEQ ID NO:s 6, 7 and 8, as claimed.

Applicants respectfully request that the rejection be withdrawn.

CONCLUSION

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1105, under Order No. 60218(48497).

Dated: July 28, 2010

Respectfully submitted,

Customer Number 21874

Electronic signature: /Colleen McKiernan, Ph.D./
Colleen McKiernan, Ph.D.
Registration No.: 48,570
EDWARDS ANGELL PALMER & DODGE LLP
P.O. Box 55874
Boston, Massachusetts 02205
(617) 517-5543
Attorneys/Agents For Applicant